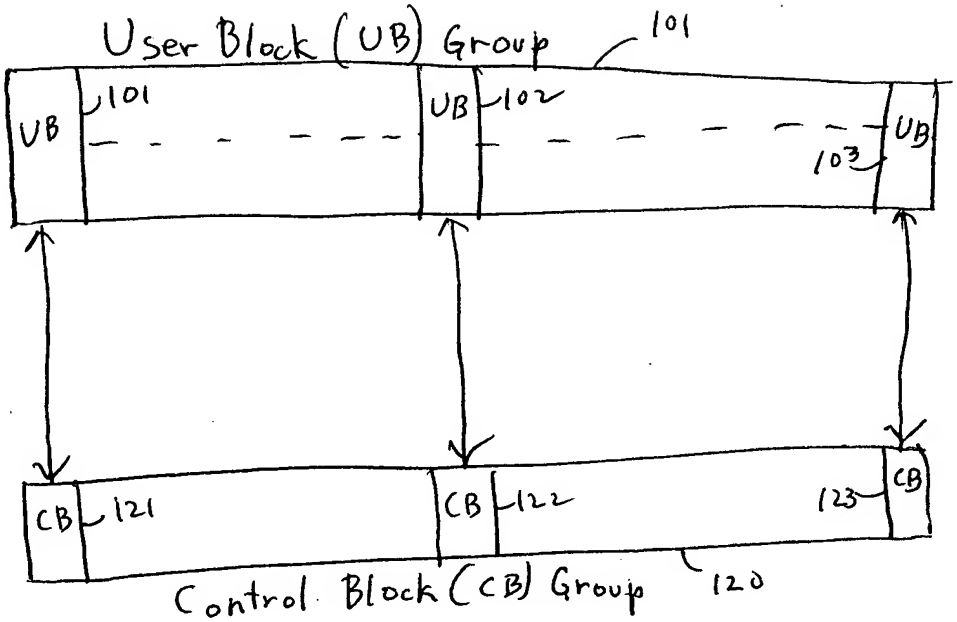

User Block (UB) Group
101
UB
101
UB
102
UB
103
CB
121
CB
122
123
CB
Control Block (CB) Group
120

Fig. 1

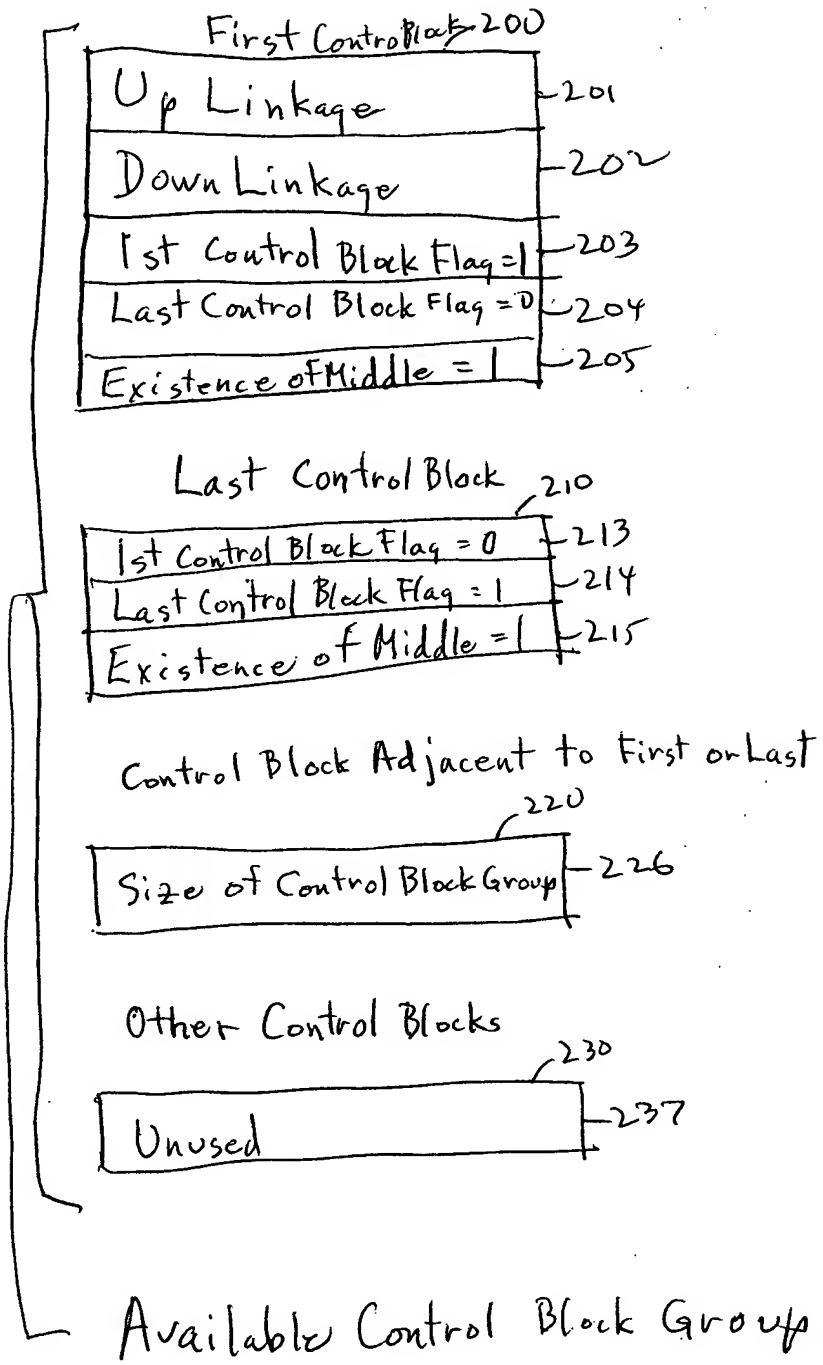

First Control Block 200
Up Linkage
201
Down Linkage
202
1st Control Block Flag = 1
203
Last Control Block Flag = 0
204
Existence of Middle = 1
205
Last Control Block
210
1st Control Block Flag = 0
213
Last Control Block Flag = 1
214
Existence of Middle = 1
215
Control Block Adjacent to First or Last
220
Size of Control Block Group
226
Other Control Blocks
230
Unused
237
Available Control Block Group

Fig. 2A

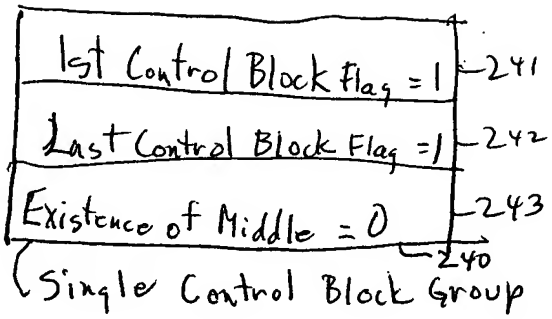

1st Control Block Flag = 1
241
Last Control Block Flag = 1
242
Existence of Middle = 0
243
240
Single Control Block Group

Fig. 2B

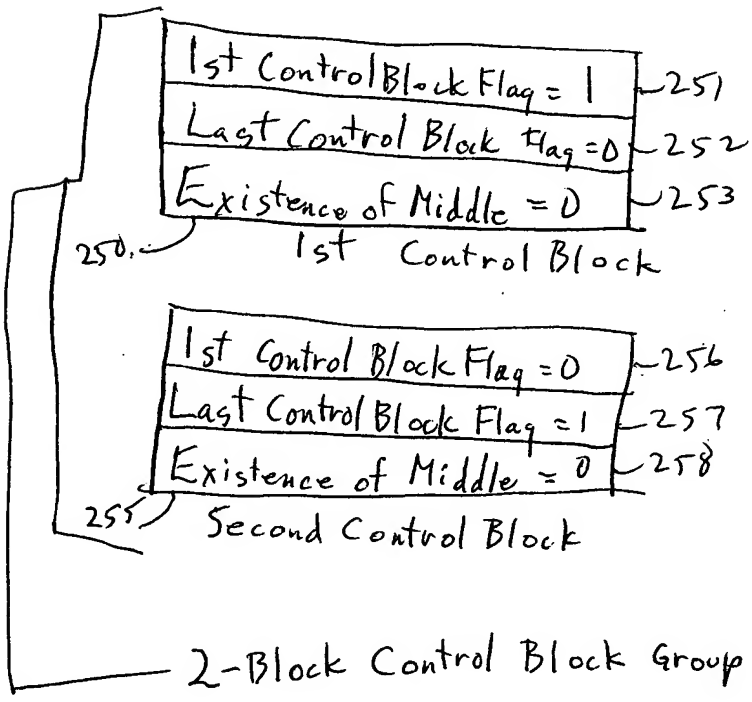

1st Control Block Flag = 1
251
Last Control Block Flag = 0
252
Existence of Middle = 0
253
250
1st Control Block
1st Control Block Flag = 0
256
Last Control Block Flag = 1
257
Existence of Middle = 0
258
255
Second Control Block
2-Block Control Block Group

Fig. 2C

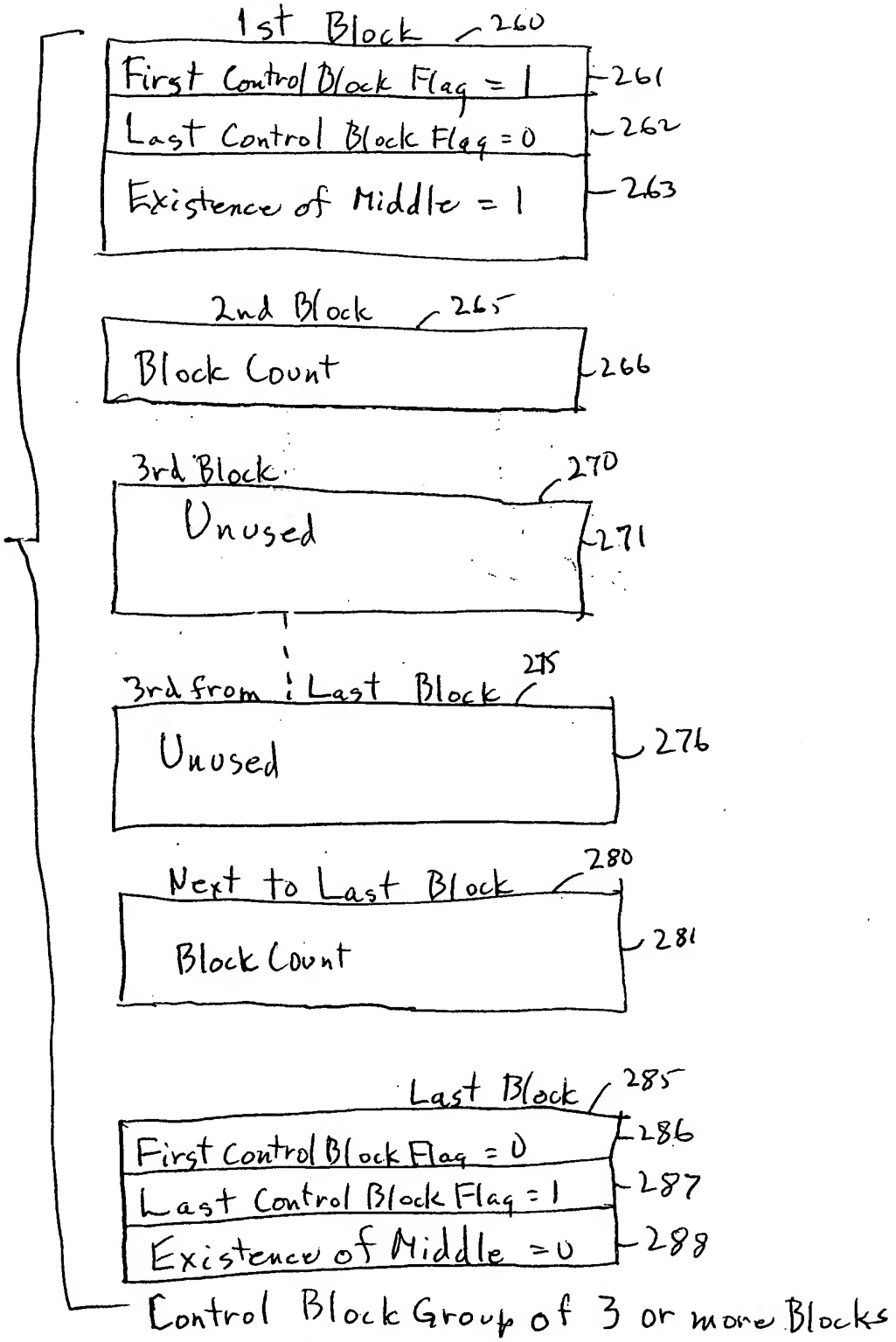

1st Block
260
First Control Block Flag = 1
261
Last Control Block Flag = 0
262
Existence of Middle = 1
263
2nd Block
265
Block Count
266
3rd Block
270
Unused
271
3rd from Last Block
275
Unused
276
Next to Last Block
280
Block Count
281
Last Block
285
First Control Block Flag = 0
286
Last Control Block Flag = 1
287
Existence of Middle = 0
288
Control Block Group of 3 or more Blocks

Fig. 2D

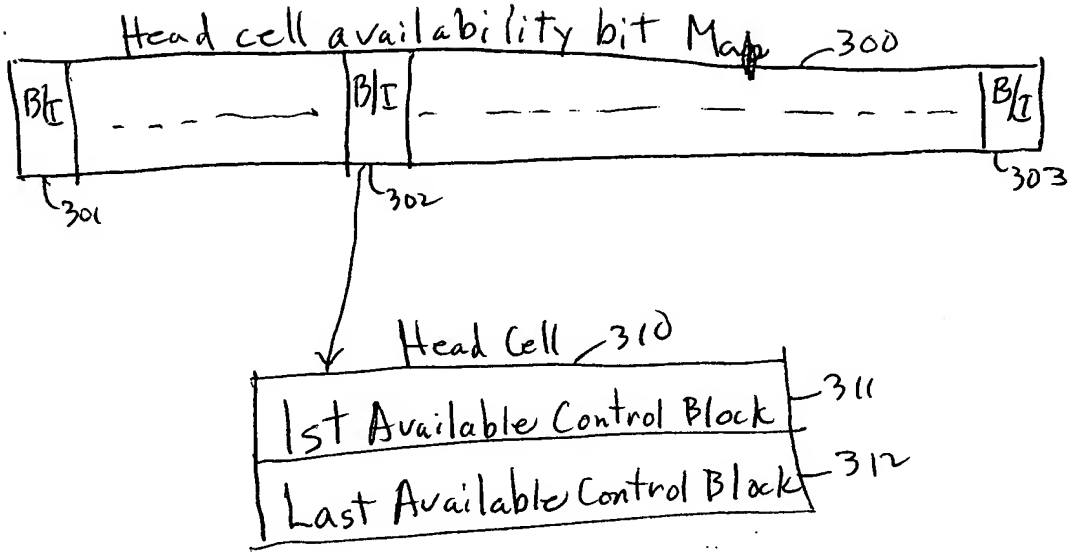

Head cell availability bit Map
300
B/I
B/I
B/I
301
302
303
Head Cell
310
1st Available Control Block
311
Last Available Control Block
312

Fig. 3

FIG. 4

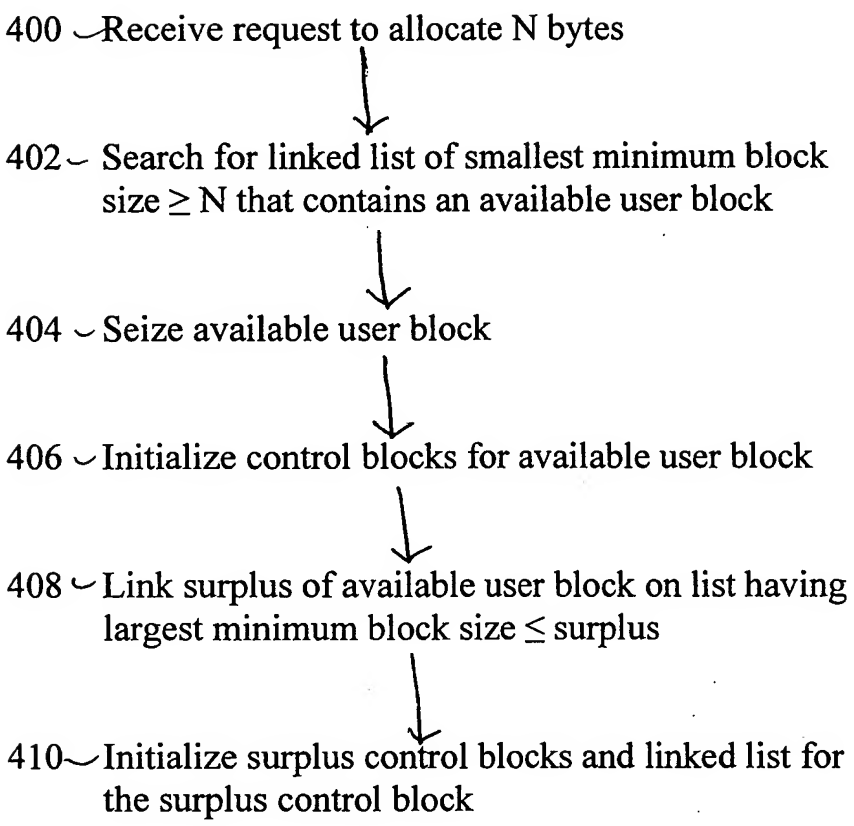
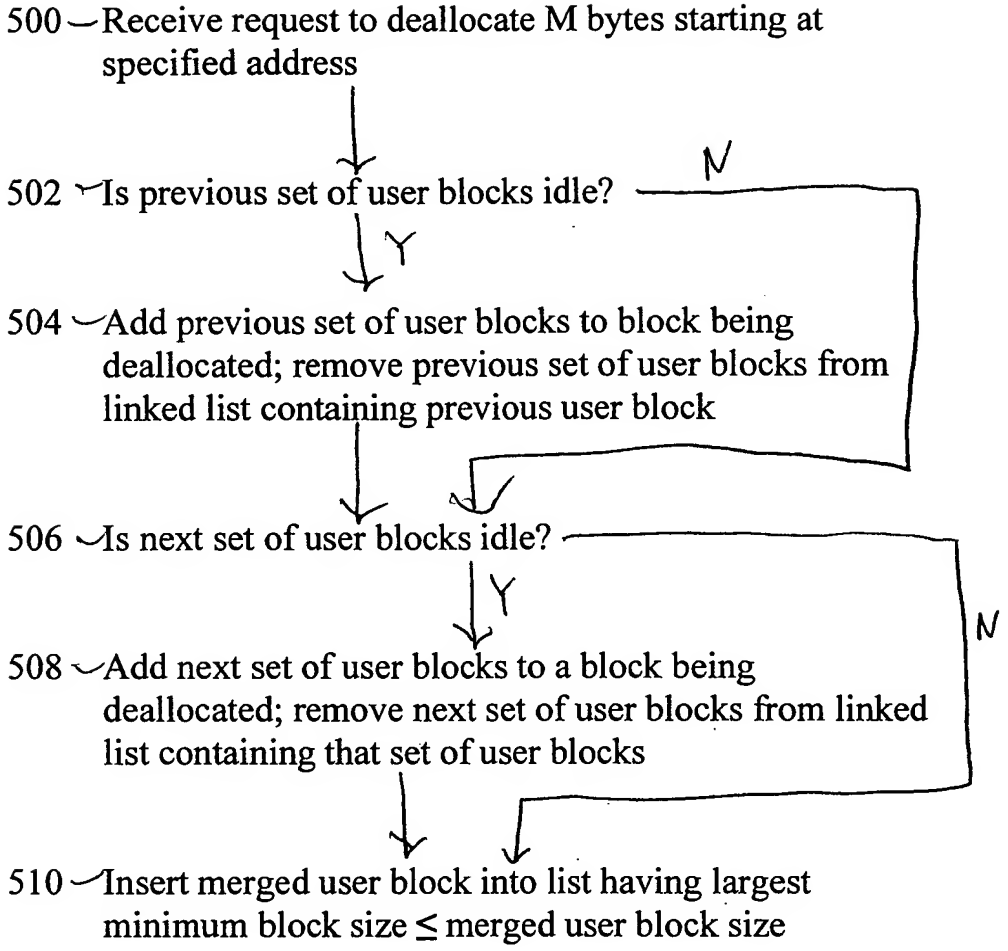
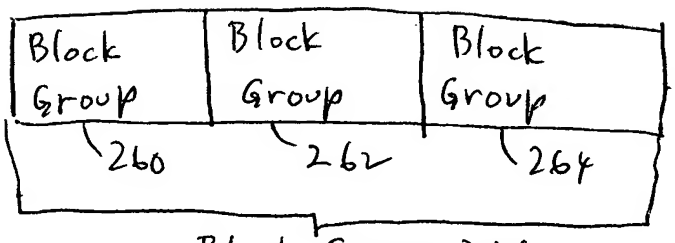

400 Receive request to allocate N bytes
402 Search for linked list of smallest minimum block size ≥ N that contains an available user block
404 Seize available user block
406 Initialize control blocks for available user block
408 Link surplus of available user block on list having largest minimum block size ≤ surplus
410 Initialize surplus control blocks and linked list for the surplus control block

FIG. 5


500 Receive request to deallocate M bytes starting at specified address
502 Is previous set of user blocks idle?
N
Y
504 Add previous set of user blocks to block being deallocated; remove previous set of user blocks from linked list containing previous user block
506 Is next set of user blocks idle?
Y
N
508 Add next set of user blocks to a block being deallocated; remove next set of user blocks from linked list containing that set of user blocks
510 Insert merged user block into list having largest minimum block size ≤ merged user block size



Block Group 266

Fig. 6A

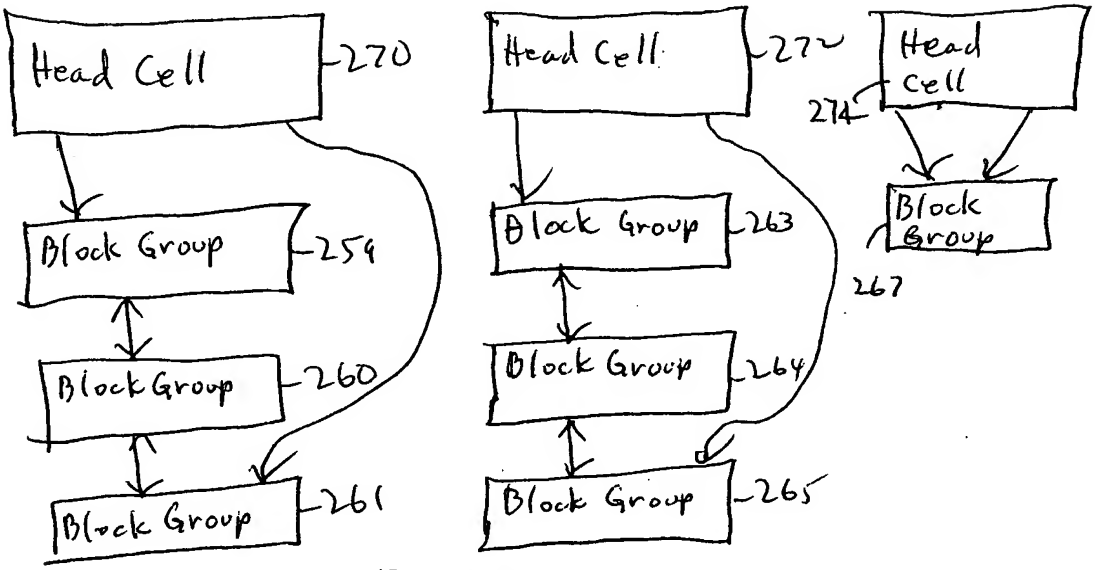


Fig. 6B

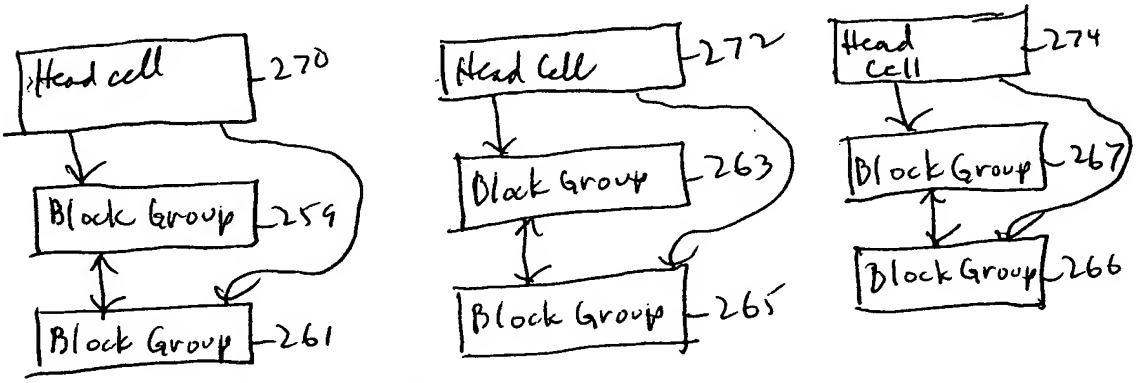


Fig. 6C

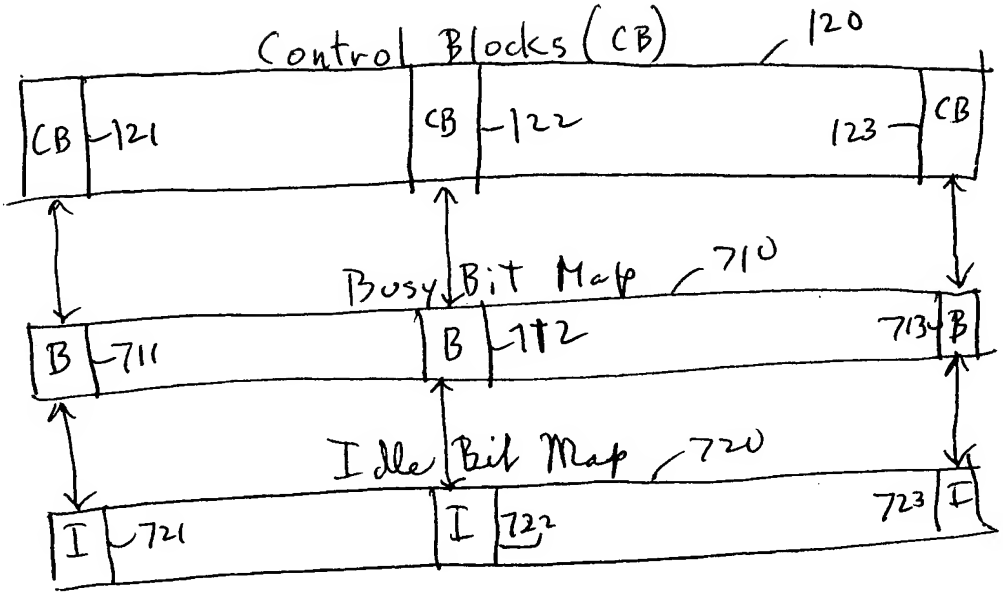

Control Blocks (CB)
120
CB
121
CB
122
123
CB
Busy Bit Map
710
B
711
B
712
713
B
Idle Bit Map
720
I
721
I
722
723
I

Fig. 7